



Jet calibration & simulation meeting

www-cdf.lbl.gov/~currat/talks/

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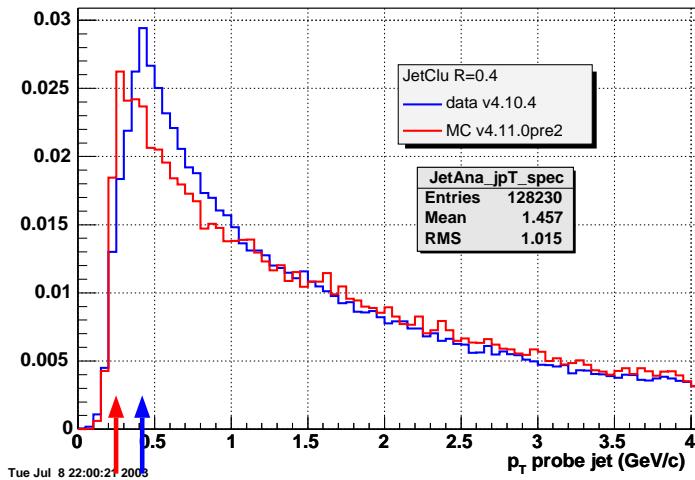
- ❖ Progress report



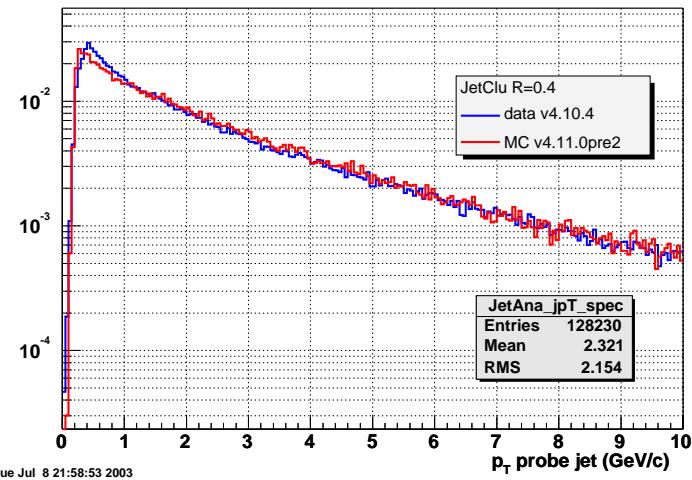
Jets anatomy 101



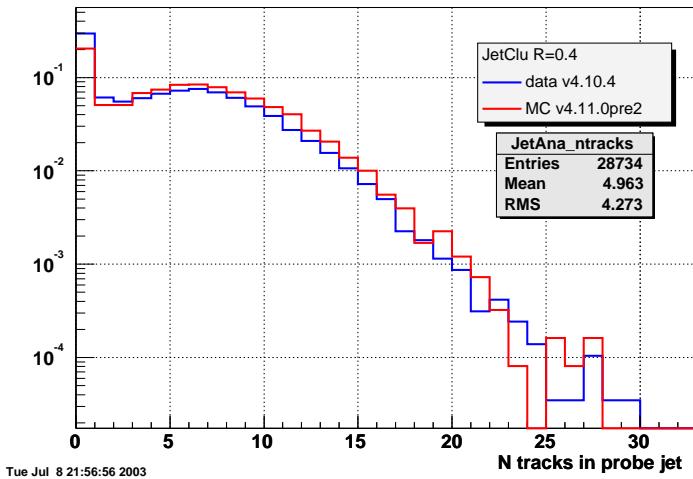
JetAna: jet trk pT spectrum



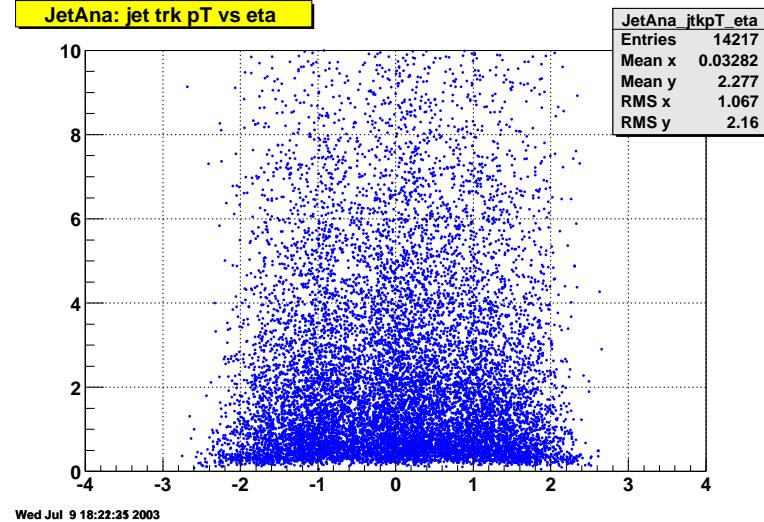
JetAna: jet trk pT spectrum



JetAna: N(tracks)

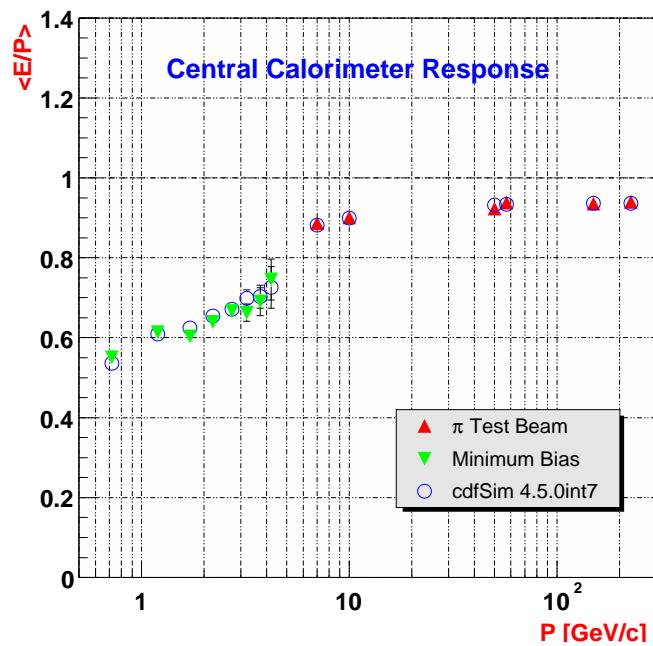
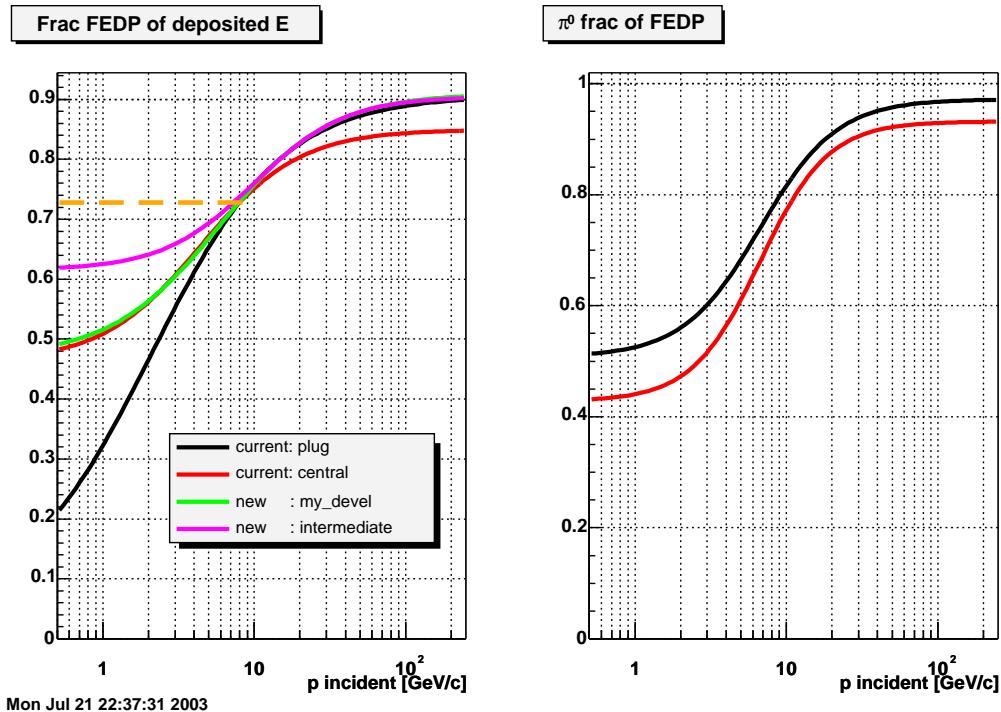


JetAna: jet trk pT vs eta



Proper low- E Gflash parameterization in the plugs is definitely required!

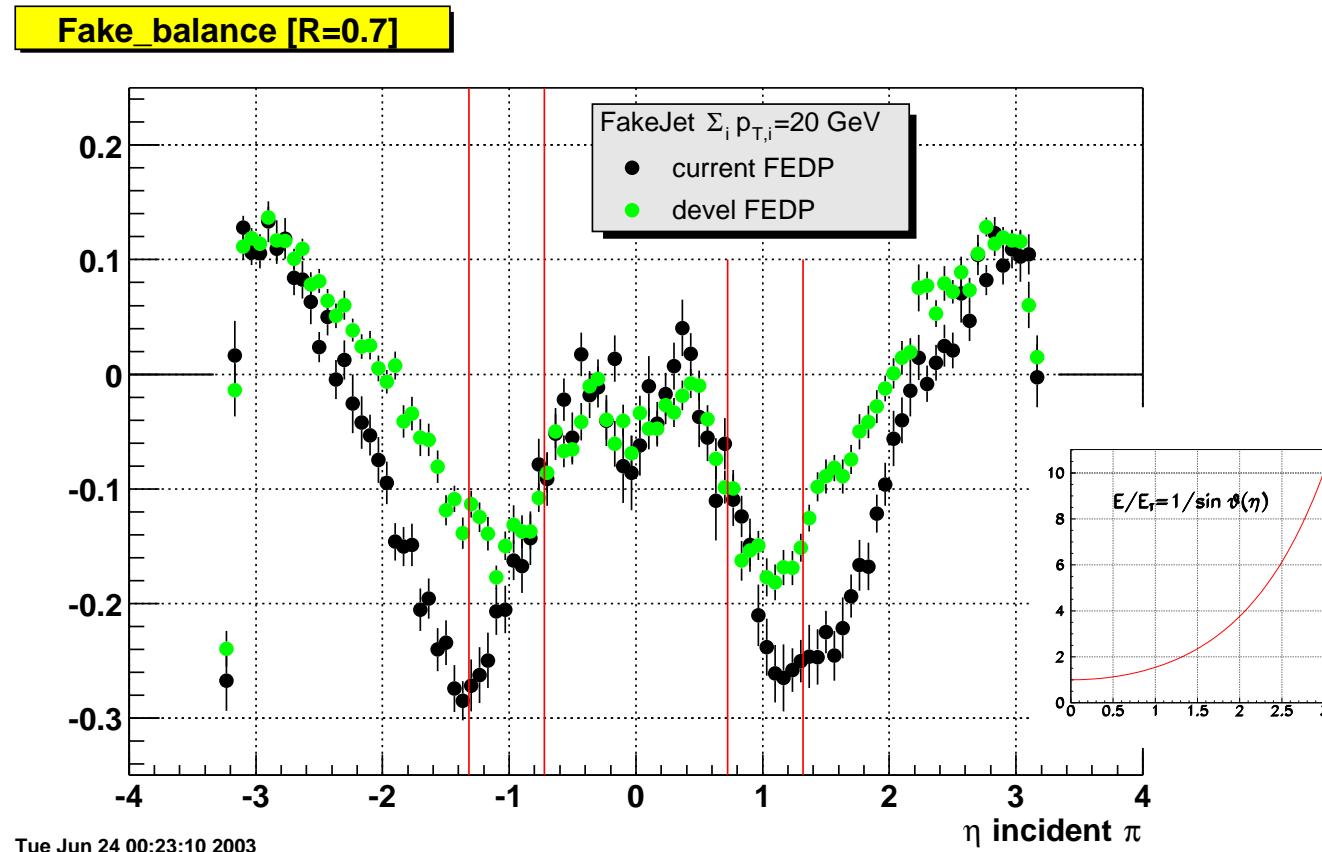
Reminder: Gflash tuning in CDF#5886. Plug tuned down to $E=8$ GeV in W1T8, $E_T = \sin(\theta(\eta = 1.58)) \times E = 3.2$ GeV.
Trying different new options below that...



Soon J.,
Sarah D.
(single
tracks)

Central-like low E response in the plug

Check out green curve versus black curve... Home made fake jets based on FakeEvent, 20 particles with $p_T = 1$ GeV/c each with gaussian distribution with $\sigma_R = 0.22$ ($\frac{2}{3}\pi^\pm, \frac{1}{3}\gamma$ abundance)



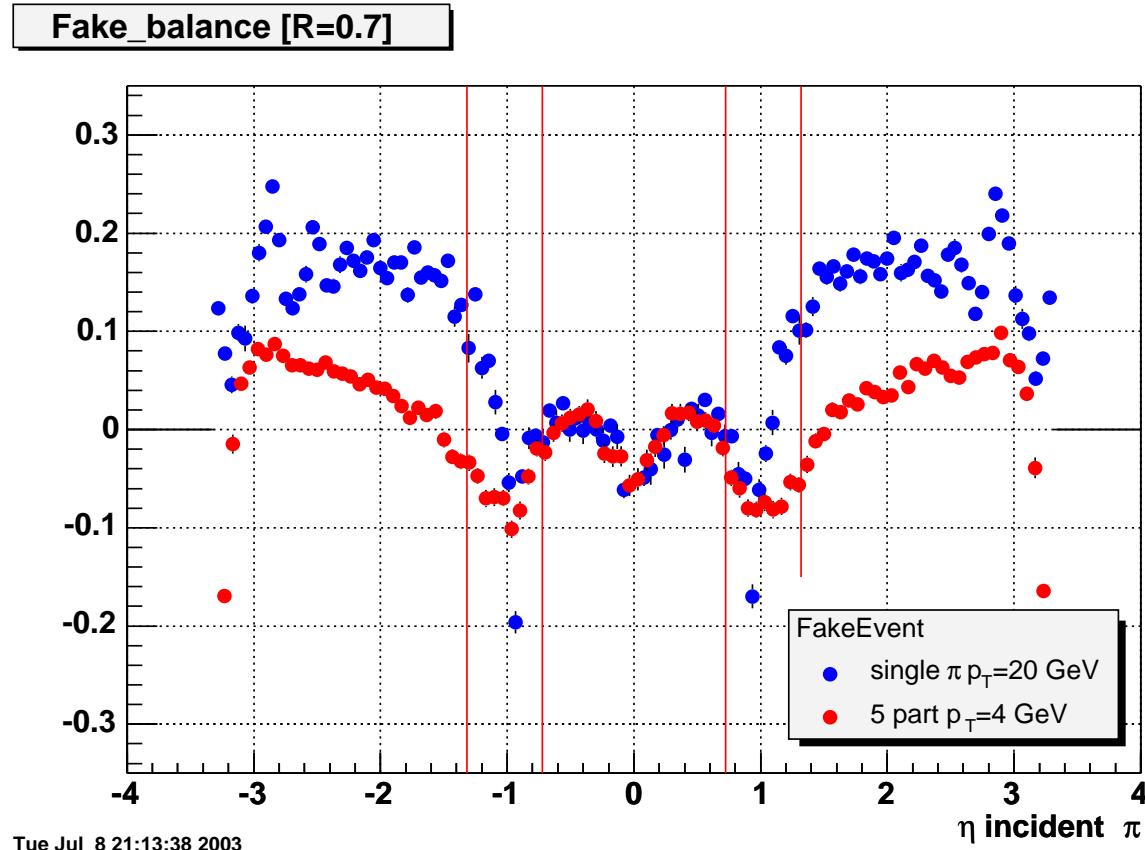
☞ The problem persists! still no plateau... however points out there's yet another thing to take care of!



Intermediate E in the plug



Fake jet of 5 particles with $p_T = 4 \text{ GeV}/c$ in current Gflash parameterization compared with single π with $p_T = 20 \text{ GeV}/c$



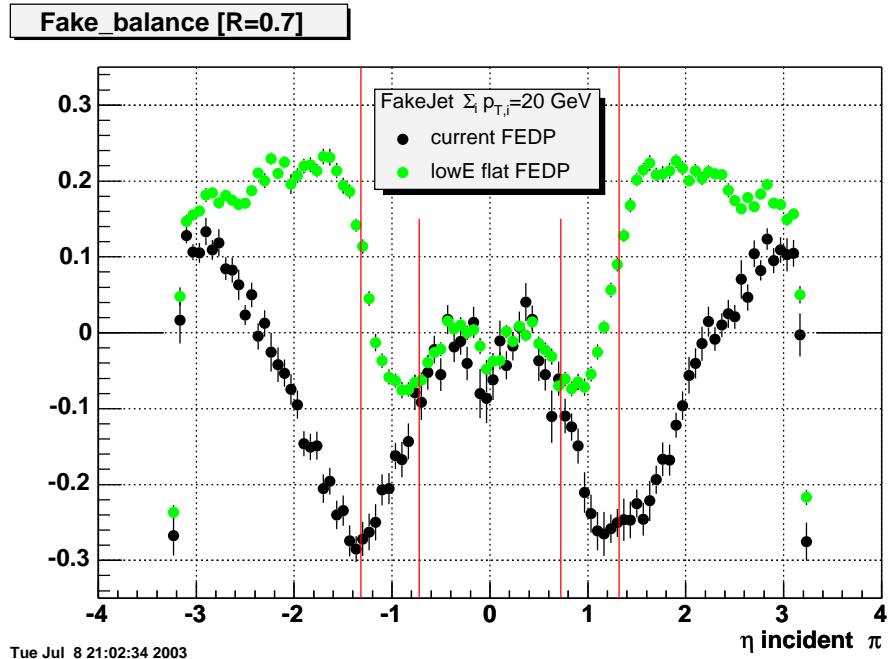
👉 Symptomatically bad also



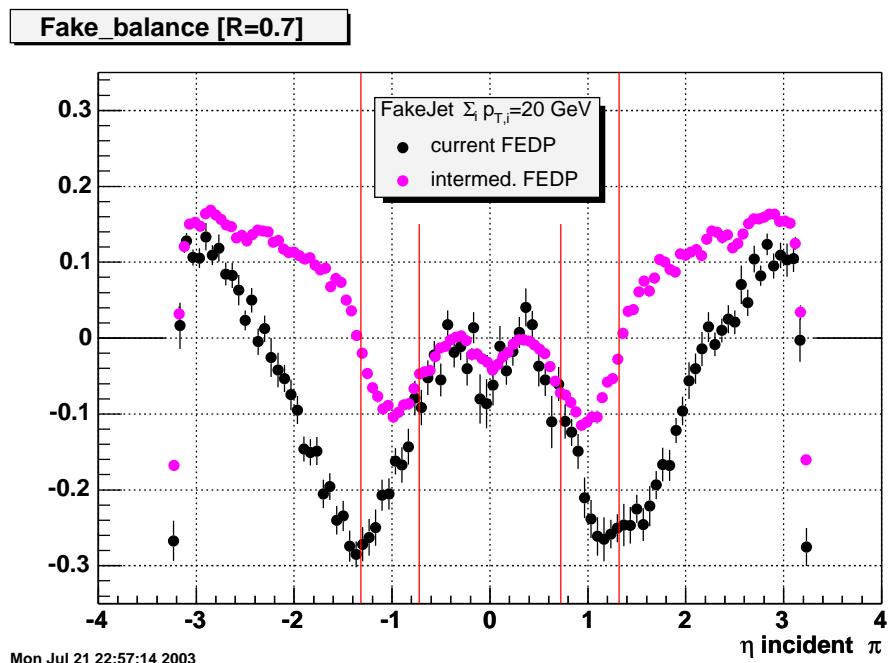
Extreme low E response in the plug



Fake jet of 20 particles with $p_T = 1 \text{ GeV}/c$ in current Gflash parameterization compared with FEDP=Cte for $p_{inc} < 8 \text{ GeV}$
 ↳ maximal amplitude available for correction



and with intermediate FEDP parameterization





- ❖ Willis working to standardize implementation of the offline LERs... stumbled across oddities in WHA/PHA overlap region
 - incorrect treatment of tower types (PHA and PPR)
 - incorrect treatment of the ϕ -segmentation (WHA=24, plug=48)
- ❖ Affected files: Calor/src/CalDataMaker.cc and GflashSim/GflashSim.cc
- ❖ Changes (partly) available in development \Rightarrow currently under evaluation on top of v 4.11.1 with fake jet gun (hint: not the definitive solution yet)
- ❖ Once fixes validated to be combined with non-linearity fix (well, our best guess)